

Non-Provisional Patent Application Under 35 U.S.C. § 111(a) and  
37 C.F.R. § 1.53(b) In the United States Patent and Trademark Office

for

**A PORTABLE, ADAPTABLE DRAWING SURFACE FOR  
STRATEGY GAMES**

by

**Thomas Seth Belcher  
Larry Trace Cooper**

**Express Mail Label No. EV342629413US**

## A PORTABLE, ADAPTABLE DRAWING SURFACE FOR STRATEGY GAMES

### BACKGROUND

#### Field

[0001] The present invention relates generally to drawing surfaces for role-playing games, strategy games, and planning boards, and, in particular, to portable, adaptable surfaces that are compatible with dry-erase markers.

#### Description of the Related Art

[0002] Role-playing games such as “Dungeons and Dragons<sup>TM</sup>,” and several other d20<sup>TM</sup> style games, as well as many strategy games, often use a hand-drawn game environment. Using “Dungeons and Dragons<sup>TM</sup>” as an example, players move playing pieces which may represent a certain type of character through the game environment. Play is controlled by a referee who is responsible for providing the gaming environment, e.g., a dungeon, a castle, a field, a desert, or other strategy environment, through which the players advance their characters. The referee inserts obstacles such as monsters, enemies, magically-locked doors, secret passageways and the like, that the players, through their adopted characters, must overcome in order to progress through the gaming environment.

[0003] The gaming environment is often a map hand-drawn upon a gaming surface that displays a grid. The grid is comprised of spaces by which movement of the playing pieces is controlled. The spaces may be any shape, but the most common are square and hexagonal. The size of the grid spaces may vary, but there are grid specifications which set out standardized grid space sizes. Standardized grid specifications ensure that many different games may be played using the same gaming surface. One such standard is known as the “d20 System<sup>TM</sup>.”

[0004] Pre-printed plans providing gaming environments for such games are available for referees to use. Typically, a plan will suggest a map that is large in area relative to the playing pieces. However, a particular character’s actions, such as using projectile weapons, swords or casting magic spells, may only have effect in a small portion of the overall environment. In addition, actions or effects from obstacles or threats to the

characters have influence over a limited area of the overall gaming environment. Therefore, only the portion of the gaming environment in which play is progressing needs to be displayed at one time. Usually a referee employs re-usable gaming surfaces that display a grid, onto which the referee hand-draws a map of the game environment. The map is drawn to depict the area that the players' characters can affect. It can be easily appreciated that such a gaming surface would preferably be portable in order that the game may be played in different locations for convenience of the participants.

[0005] One such re-usable surface currently available is a gaming mat that may comprise a vinyl-type material printed with a grid. The gaming mat may be written upon with erasable markers, primarily "wet-erase" markers, but to correct errors or clean the gaming mat, a solvent, for example water or a cleaning solution, in addition rags or towels are required. Furthermore, the inks used by these type markers can leave an undesirable residue on the cleaner's hands, cleaning rag, and even the mat. Another limitation of this solution is that when the game has progressed to a point where action will go beyond the limits of the gaming mat, if the players wish to continue the game, the entire gaming mat must be cleaned and a new map drawn on it.

[0006] It is preferable in using the gaming mat that it be placed on a table or other hard surface for play to provide a firm foundation upon which to set the game pieces. In addition, care must be used in storing the gaming mat. Often, the gaming mat is stored and transported folded or in a roll configuration. However, the gaming mat tends to "remember" its folded or rolled shape and when unfurled for play, creases, unevenness, deformation or curling of the edges can result, making play difficult as there is not as firm a stratum upon which to place game pieces or to evenly draw upon with a marker.

[0007] There exist modular kits for assembling gaming environments that will provide a hard surface upon which to place and move game pieces. However, these do not permit one to create his own map. In other words, the players are restricted to whatever environment can be constructed out of the components of the kit. In order to see varied environments, it is necessary to obtain more components and, thus, incur more cost. In addition, the accompanying increase in the number of components reduces the portability of the game.

[0008] Therefore, there exists a need for a portable, re-usable drawing plane that is easily erasable. Co-existent is the need for such a surface to be adaptable to game progress allowing for custom-created maps and to provide a firm surface upon which to place and move game pieces.

#### SUMMARY

[0009] The present disclosure is directed to a novel drawing and gaming surface system which satisfies these needs. For purposes of summarizing the invention, certain aspects, advantages, and novel features of the invention have been described herein. It is to be understood that not necessarily all such advantages may be achieved in accordance with any one particular embodiment of the invention. Thus, the invention may be embodied or carried out in a manner that achieves or optimizes one advantage or group of advantages as taught herein without necessarily achieving other advantages as may be taught or suggested herein.

[00010] According to one embodiment of the invention, a gaming plane that is portable and adaptable is comprised of interconnecting tiles where said tiles comprise means for interconnecting with other like tiles at their edges. Said tiles have surfaces that are compatible with the use of dry-erase markers and display a grid.

[00011] According to another embodiment of the invention, one means of interconnecting the tiles comprises the use of jigsaw puzzle type tabs and recesses disposed in the edges of the tiles.

[00012] According to another embodiment of the invention, the grid displayed upon the tile may be a Cartesian grid.

[00013] According to another embodiment of the invention, the grid displayed upon the tile may be a honeycomb grid.

[00014] These and other embodiments of the present invention will also become readily apparent to those skilled in the art from the following detailed description of the embodiments having reference to the attached figures, the invention not being limited to any particular embodiment(s) disclosed.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

- [00015] The present invention is described with reference to the accompanying drawings. In the drawings, like reference numbers indicate identical or functionally similar elements. Additionally, the left-most digit(s) of a reference number identifies the drawing in which the reference number first appears.
- [00016] Figure 1 is a perspective view of a tile according to the present invention.
- [00017] Figure 1A & 1B depict a ball and socket interconnection.
- [00018] Figure 1C & 1D depict an overhand and underhand hook interconnection.
- [00019] Figure 1E & 1F depict a tongue-and-groove interconnection.
- [00020] Figure 1G depicts a key and cutout interconnection.
- [00021] Figure 1H depicts interconnection using magnetic materials.
- [00022] Figure 2 illustrates a gaming plane according to the present invention.
- [00023] Figure 3 illustrates an adapted gaming plane according to the present invention.

### **DETAILED DESCRIPTION**

- [00024] The various embodiments of the present invention and their advantages are best understood by referring to Figures 1 through 3 of the drawings. The elements of the drawings are not necessarily to scale, emphasis instead being placed upon clearly illustrating the principles of the invention. Throughout the drawings, like numerals are used for like and corresponding parts of the various drawings.
- [00025] This invention may be provided in other specific forms and embodiments without departing from the essential characteristics as described herein. The embodiments described above are to be considered in all aspects as illustrative only and not restrictive in any manner. The following claims rather than the foregoing description indicate the scope of the invention.
- [00026] Shown in Figure 1 is an exemplary tile 100, the inventive features of which will now be described. Tile 100 comprises tile surface 101 and a plurality of edges 105a-d. Although tile 100 is shown with four edges, it should be appreciated that tile 100 could be configured with more edges, for example, six for a hexagonally shaped tile, or with fewer edges, for example, three edges for a triangularly shaped tile, and

still be within the scope of the present invention. Adjacent edges 105a and 105b comprise departures, or tabs 107a, b, that have a substantially “jigsaw puzzle-like” shape. Opposite to edges 105a and 105b, opposing edges 105c and 105d comprise recesses, or cut-outs 109b and 109a, respectively, toward the center of the tile and shaped to receive tabs 107b and 107a.

[00027] Cartesian grid 102 appears on tile surface 101. Cartesian grid 102 may be etched upon tile surface 101, painted onto tile surface 101, or affixed to tile surface 101 with overlaying strips bonded thereto. Alternatively, the Cartesian grid could be sublimated or embedded into the tile substrate thereby avoiding the need to apply the grid to the substrate surface. Preferably, Cartesian grid 102 is printed directly on tile surface 101 such that grid delineations do not present irregularities in tile surface. Such irregularities could inhibit or prevent movement of playing pieces 104 by simply sliding from grid square to grid square, or present an irregular surface for using an erasable marker. It should be appreciated that a honeycomb grid, comprised of hexagons, could be used as well.

[00028] Tile 100 can be made from any suitable polymeric or other lightweight material that can provide a sufficiently non-flexible tile. For example, tile 100 may be formed with a lightweight metal or wood support, assuming the metal or wood used is compatible with the application of a grid and a dry-erasable surface. A prototype has been constructed by forming tile 100 from polystyrene. Polystyrene has many qualities which make this polymeric preferable for the application of forming tile 100 including, but not limited to, heat tolerance and hardness, as would be appreciated by those skilled in the relevant arts.

[00029] Tile surface 101 is a dry-erase surface, that is, it is compatible with the use of dry-erase markers upon it such that marks from such a dry-erase marker are non-permanent and easily erasable without resort to solvent, e.g., water or cleaning solution. Construction of dry-erase surfaces is well-known. They can be constructed by laminating a substrate with a polypropylene layer. In the alternative, a substrate, for example, one comprised of polystyrene, may be treated with a clear polymer sealant coating to provide a dry-erase compatible surface. If this method is employed, it is preferable to print grid delineations 102 upon tile surface 101, and then clad the entire surface with the clear polymer in order to obtain a smooth surface. However, if

the grid delineations are dry-erase compatible themselves, they could be printed on top of the clear polymer surface. For example, grid delineations may be applied to tile surface 101 using a colored polymer sealant that would be compatible with the use of dry-erase markers. Also, the grid lines could be sublimated into the dry-erase surface. Lastly, certain materials may be used in the fabrication of a tile which are compatible with the use of dry-erase markers without treating or laminating of any kind.

[00030] It should be noted that as shown in Figure 1, tab 107a is of a different size than tab 107b and that, likewise, recess 109a is of a different size than adjacent recess 109b. Furthermore, tab 107a is configured to fit snugly into recess 109a of another tile and likewise tab 107b is configured to fit snugly into recess 109b of another tile. In the preferred embodiment, grid delineations 102 align with grid delineations of interconnecting tiles such that two or more interconnected tiles provide the appearance of an uninterrupted grid over the gaming plane formed by a plurality of interconnected tiles. The difference in sizes of the tabs and corresponding recesses ensure that tiles are interconnected in a proper relative orientation with respect to one another to provide alignment of the respective tile grids in order to achieve this uninterrupted, continuous grid effect. However, the differently sized tabs are not an essential part of the design, but merely a function of the grid design being employed. If a homogeneous, symmetric grid design is used instead, the tabs could be identical and thereby allow tile 100 to be interconnected with other like tiles in one of two orientations.

[00031] Tile 100, when composed of polystyrene, is preferably about one-eighth inch in thickness and can be injection molded or compression molded. Other methods of fabricating a tile in accordance with the present invention would be known to those skilled in the relevant arts with the benefit of reading this disclosure.

[00032] Tile 100 is also preferably configured such that a gap between any of such tiles interconnected is no more than about one-sixty-fourth of an inch. This tight gap provides a smooth plane on which to draw with a dry-erase marker or slide playing pieces 104 from tile to tile.

[00033] Tabs 107a, b and recesses 109a, b are shaped to provide a fit that results in a substantially planar surface formed by the interconnecting of two or more such tiles, where such substantially planar surface is resistant to deformation. In addition, in the

preferred embodiment, tabs 107a, b and recesses 109a, b are also shaped to allow relatively easy disconnection and reconnection of tiles.

[00034] Furthermore, it will be appreciated by those skilled in the relevant arts that the jigsaw-puzzle-type tabs 107a, b and recesses 109a, b are not the only technique of interconnecting two or more such tiles according to this invention. Without limitation, Figures 1A-G display examples of various interconnecting techniques.

[00035] Figures 1A & 1B display an exemplary ball-and-socket joining technique where tile 100 comprises one or more pegs 103 extending from one edge and aperture 113 configured to receive peg 103 bored into an opposing edge. Alternatively, a similar technique could be employed where peg 103 does not comprise a ball.

[00036] Figures 1C & 1D illustrate a hook method whereby tile 100 comprises an edge which forms an overhand hook and another edge which forms an underhand hook 120 into which the overhand hook is received as shown in Figure 1D.

[00037] Figures 1E & 1F display a tongue-and-groove method whereby tile 100 comprises an edge extending from which is tongue 117 and an edge carved out of which is a groove 121 which receives tongue 117, as shown in Figure 1F.

[00038] Figure 1G illustrates a tile 100 with edges which have a substantially wedge-shaped cut-out 130. Two such tiles are interconnected by means of a butterfly key 135 inserted into wedge-shaped cut-outs 130 of two interconnecting tiles 100. Without limitation, the shape of the key and cut-out has substantial capacity for variation.

[00039] Figure 1H depicts a further embodiment wherein tile 100 comprises one or more pieces of magnetic material of a certain polarity 141 in an edge and magnetic material of opposite polarity 140 on a connecting edge. Magnetic materials 141, 140 are mated such that the attraction between the two holds the two tiles 100 together. It should be noted that magnetic material could be embedded with the plastic instead of exposed. Other techniques may be employed to interconnect tiles 100 as would be known to those skilled in the relevant arts.

[00040] The present invention advantageously overcomes several shortcomings in current strategy game surfaces. The gaming plane formed by tiles in accordance with the present invention provides a stable platform on which to place and move playing pieces, unlike vinyl mats. The dry-erase surface allows creation of individualized maps with dry-erase markers. This results in ease of cleaning and re-use of the entire



gaming surface. In addition, in the event game action progresses to the edge of the gaming plane, modularity due to the gaming plane being formed from interconnected tiles and the fact that the tiles comprise dry-erase surfaces result in adapting the game to an updated map without cleaning an entire gaming surface.

[00041] Illustrated by reference to Figures 2 and 3, gaming plane 200 comprises a plurality of interconnected tiles 100. It should be noted that, in accordance with the preferred embodiment described herein, tiles 100 are interconnected such that grid 102 appears uninterrupted over the gaming plane 200. Individualized map 202 is drawn upon the dry-erase surface of gaming plane 200 formed by interconnected tiles 100. Arrow 205 simply indicates the direction playing pieces 104 are progressed through individualized map 202 upon gaming plane 200. As shown, playing pieces 104 have reached the edge of the existing map 202.

[00042] Turning to Figure 3, tiles 100a, b and 100e have been removed from their respective previous locations, wiped clean and reconnected with gaming plane abutting tile 100c. Tiles 100a, b and 100e, plus a portion of tile 100c, have been drawn upon with an updated map 301 that is an extension of individualized map 202.

[00043] It will be appreciated by those skilled in the relevant arts that another potential use for the invention is in the area of planning boards. A planning board provides a table-top drawing surface that functions as a visual aid during meetings. For example, details of the meeting can be hand drawn on the surface, modified, and erased if desired. Because meetings are often not located at a user's own facilities, a planning board comprised of interconnecting tiles, satisfies a need for a portable, erasable and reusable drawing surface.

[00044] As described above and shown in the associated drawings, the present invention comprises a portable, adaptable, gaming board and the non-flexible tiles making up such a board. While particular embodiments of the invention have been described, it will be understood, however, that the invention is not limited thereto, since modifications may be made by those skilled in the art, particularly in light of the foregoing teachings. It is, therefore, contemplated by the appended claims to cover any such modifications that incorporate those features or those improvements that embody the spirit and scope of the present invention.